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EXAMINER				
LIGHTFOOT, ELENA TSOY				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,721

Applicant(s)

GROS ET AL.

Examiner

ELENA Tsoy LIGHTFOOT

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-96 and 107-115 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-96 and 107-115 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/003)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

Amendment filed on November 2, 2009 has been entered. Claims 97-106 have been cancelled. New claims 108-115 have been added. Claims 41-96, and 107-115 are pending in the application.

Claims examined on the merits are 41-96, and 107-115.

Claim Objections

1. Objection to claims 58 and 59 because of the informalities has been withdrawn due to amendment.
2. Objection to claim 94 as being of improper dependent form for failing to further limit the subject matter of a previous claim has been withdrawn due to amendment.
3. Objection to claim 107 as being of improper dependent form for failing to further limit the subject matter of a previous claim has been withdrawn due to amendment.
4. Claims 114-115 are objected to because of the following informalities: "24 to 33 %w" should be changed to "24 to 33 wt.%" as in claim 41. Appropriate correction is required.

Double Patenting

5. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

6. Applicant is advised that should claim 115 be found allowable, claim 114 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 41-96, and 107-115 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 41, 42, 108, 109 recite a phrase “up to 220 m per second” which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention since the specification as originally filed disclose up to 220 m per **minute** (See P40 of Published Application). Since the specification as originally filed discloses: “Nowadays many conveyor belt systems are operated at a speed in the range from 30 to 130 m/min. It is *foreseeable*, however, that in the future quite a few systems will be operated at a speed in the

range from 80 to 200 m/min”, for examining purposes the phrase was interpreted as “up to 220 m per **minute**”.

9. Claims 41-96, and 107-115 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for 20-220 m per minute, does not reasonably provide enablement for 220 m per second. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

10. Claims 41-96, and 107-115 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 41 and claim 42 recite in bottom 2-3 lines “the monomers, oligomers and/or polymers are selected such that a narrow distribution of medium-sized chain lengths results when the components are cross-linked”. However, neither claims nor the Applicants’ specification provides the guidance how to select suitable monomers, oligomers and/or polymers.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 41, 43, 45, 47, 49, 50, 52, 54, 56, 58, 60, 62, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, and 107-115 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 41 and 42 recite “wherein metallic strips are coated at strip velocities up to 220 m per second”. However, claims 41 and 42 recite “a process of coating a metallic substrate” not “a process of coating metallic strips”.

Regarding claims 65-66, the phrase “*such as*” renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Language of claims 65-66 is confusing because a sentence with a second “wherein” lacks a verb.

Claims 42, 58, 62, 79-80 and 109 recite the broad recitation of a limitation, and the claims also recite “*preferably* ...”, which is the narrower statement of the range/limitation. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Language of new claims 112 and 113 is confusing. For examining purposes claims were interpreted as: "112. (new) The process of claim 41, wherein ~~comprising from 1 to 58~~ 30 to 44 wt.% of the monofunctional monomer or oligomer, ~~of which are 30 to 44 %w of a~~ is(arc) mixture of isobornylacrylate and isobornylmethacrylate." "113. (new) The process of claim 42, wherein ~~comprising from 1 to 58~~ 30 to 44 wt.% of the monofunctional monomer or oligomer, ~~of which are 30 to 44 %w of a~~ is(arc) mixture of isobornylacrylate and isobornylmethacrylate."

New claims 108 and 109 recite: "wherein zinc or zinc alloy coated steel strips are coated at strip velocities up to 220 m per second." However, claims 108 and 109 do not recite zinc or zinc alloy coated steel strips.

New claims 114 and 115 recite: "The process of claim 41, wherein the composition includes 24 to 33 %w of urethane acrylate polyester as base polymer component", which is confusing because "base polymer component" is not recited in claims 41. For examining purposes the phrase was interpreted as "The process of claim 41, wherein the composition includes 24 to 33 wt.%~~w~~ of urethane acrylate polyester as the base polymer component".

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Rejection of claims 41-57, 59-84, 87-96, and 107 under 35 U.S.C. 103(a) as being unpatentable over Shustack (US 5,128,387) has been withdrawn due to amendment.

15. Claims 41-96, and 107-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gros (DE 19925631A) in view of Koegler et al (US 5916979).

Examiner Note: instead of the Examiner will The Examiner Note: for convenience, instead of DE 19925631A in German, the Examiner will refer to US 20050186442 of the same patent family.

Gros is applied here for the same reasons as set forth in paragraph 10 of the Office Action mailed on 7/31/2009.

As to strip velocities, Gros teaches that the metallic substrate to be coated preferably is a *steel strip* which is *zinc-coated* (See P29). Gros fails to teach that metallic strips are coated at strip velocities up to 220 m per minute.

Koegler et al teaches that coating materials, which can be processed in liquid form at room temperature, may be applied to strips (steel, zinc-plated steel, aluminum, etc.) on *typical* high-performance units in the coil-coating industry at high belt speeds (up to **200 m/min**) and ensures highly uniform application of the coating (See column 1, lines 20-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a *typical* high-performance unit in the coil-coating industry for coating a metal strip in Gros with the expectation of providing the desired high belt speeds of up to 200 m/min and highly uniform application of the coating, as taught by Koegler et al.

As to claims 58-59, 85-86, Gros teaches that suitable binders include *epoxy resins* (See P16) which are known to be cured by melamine (See P4).

As to claims 108-109, Gros teaches Zn-coated steel (See P29, 36).

16. Claims 41-66, 69-92, 95-96, and 107-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al (US 6087417) in view of Koegler et al '979.

Stevenson et al is applied here for the same reasons as set forth in paragraph 13 of the Office Action mailed on 7/31/2009.

As to strip velocities, Stevenson et al teaches applying solvent-free curable coating composition to a metal substrate such as *galvanized* steel in the form of *coils* (See column 10, lines 36-44).

Stevenson et al fails to teach that metallic coils are coated at strip velocities up to 220 m per minute.

Koegler et al teaches that coating materials, which can be processed in liquid form at room temperature, may be applied to strips (steel, zinc-plated steel, aluminum, etc.) on *typical* high-performance units in the coil-coating industry at high belt speeds (up to **200 m/min**) and ensures highly uniform application of the coating (See column 1, lines 20-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a *typical* high-performance unit in the coil-coating industry for coating a metal strip in Stevenson et al with the expectation of providing the desired high belt speeds of up to 200 m/min and highly uniform application of the coating, as taught by Koegler et al.

As to claims 108-109, it is well known in the art that steel is typically *galvanized with zinc*.*.

17. Claims 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gros '631 in view of Koegler et al '979, as applied above, and further in view of Dichter et al (US 4421569) for the reasons of record set forth in paragraph 11 of the Office Action mailed on 7/31/2009.

18. Claims 58-59 and 85-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gros '631 in view of Koegler et al '979, as applied above, and further in view of Stevenson et al '417.

Stevenson et al teaches that the curable coating composition may include curing agents, such as **aminoplast** resins (claimed melamine resin) (claimed hardener for a chemical postcure), depending on the amount of saturated acid or hydroxyl bearing diluent employed (See column 8, lines 24-25).

19. Claims 67-68, 87-88, and 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al '417 in view of Koegler et al '979, as applied above, further in view of Shustack '387 for the reasons of record set forth in paragraph 14 of the Office Action mailed on 7/31/2009.

20. Claims 110-113 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gros '631 in view of Koegler et al '979 or over Stevenson et al '417 in view of Koegler et al '979, as applied above, and further in view of Shustack (US 5,128,387).

Each of Gros and Stevenson et al fails to teach that the low-molecular liquid compound includes 30-44 wt % of a mixture of isobornyl acrylate and isobornyl methacrylate. However, Shustack teaches that the presence of 15-75 wt % of a bulky monomer such as isobornyl acrylate and isobornyl methacrylate (See column 5, lines 21-31) in a metal coating composition is thought to confer the desirable property of ductility on the composition (See column 5, lines 47-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used isobornyl acrylate or isobornyl methacrylate as low-molecular

liquid compound in coating composition of Gros/Stevenson et al with the expectation of providing the coating composition with the desired ductility, as taught by Shustack.

It is well settled that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used isobornyl acrylate and isobornyl methacrylate as low-molecular liquid compound in coating composition of Gros/Stevenson et al with the expectation of providing the coating composition with the desired ductility, as taught by Shustack.

The 15-75 wt % range of Shustack overlaps claimed range of 30-44 wt %. It is well settled that overlapping ranges are prima facie evidence of obviousness. It would have been obvious to one having ordinary skill in the art to have selected the portion of Shustack's range that corresponds to the claimed range.

21. Claims 114-115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gros '631 in view of Koegler et al '979, as applied above, and further in view of Anderson et al (US 6,413,590) (See column 2, lines 24-30) and Field et al (US 3,658,943).

Gros teaches that suitable binders include *polyurethanes*, *polyesters*, polyethers and other similar polymers or polymers derived therefrom and esterification products thereof with acrylic or methacrylic acid (See P16), i.e. **polyurethane acrylate**, **polyester acrylate** and polyether acrylate . It is well settled that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to have used a mixture of polyurethane acrylate and polyester acrylate as a binder in Gros because each of them is suitable as a binder.

Gros fails to teach that polyester urethane acrylate is used as a binder.

Anderson et al (See column 2, lines 24-30) and Field et al (See column 4, lines 3-5) teach that a random or graft copolymer is functionally equivalent to a mixture of homopolymers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used acrylated copolymer of polyurethane and polyester (polyester urethane acrylate) as a binder in Gros instead of a mixture of polyurethane acrylate and polyester acrylate with the expectation of providing the same desired benefits since Anderson et al and Field et al teach that properties of a polymer composition depend basically on polymer units themselves, not on how they are combined.

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

* US 3625777 to Okabe et al is cited herein to show that it is well known in the art that steel is typically galvanized with zinc (See column 2, lines 6, 11).

Response to Arguments

22. Applicant's arguments with respect to claims 41-96, and 107-115 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELENA Tsoy LIGHTFOOT whose telephone number is (571)272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/540,721

Page 13

Art Unit: 1792

Elena Tsoy Lightfoot, Ph.D.

Primary Examiner

Art Unit 1792

December 16, 2009

/Elena Tsoy Lightfoot/